Month and Year.

Day	Hour	Barometer	Thermometer shade	Wet-bulb shade	Dew-point	Course of Wind	Force of Wind	Number of Clouds	Course of lower Clouds	Course of upper Clouds	Beginning of Rain	End of Rain	Quantity of Rain	Times of Max. of Barometer	Times of Min. of Barometer	Rise and fall of River	Rise and fall of Lake	Observations
Means at O'clock																		

Washington City July 2d 1842.

Dear Sir,

Rec^d July 21st
Ans July 23d

It is my wish to have a great many simultaneous observations on the weather made over a wide extent of territory, and sent monthly to the Navy Department - care of Professor James P. Espy.

My chief object is to try, by collating these jousnals, to find out something more of the nature of storms, than is yet known. Will you, Sir, have the goodness to co-operate with me in this undertaking. If you will send me a copy of your journal kept either in your own way or according to the form given above, I will send to you the results of this investigation from time to time as I may find any thing worth communicating. This system, to be of much value, must be continued for several years. It is confidently expected that the interest in the subject will become more general, and the number of observers greatly increase, as soon as it is known, that their labors are not likely to be in vain, as thousands of insulated observations have heretofore been.

I request you also as soon as you have carefully read the contents of this "Circular" to send it to some one in your state or elsewhere, who will be likely to take an interest in the subject - and let him do the same, and thus very many will become acquainted with the plan in time to co-operate, at the very beginning - It is my intention also in a few months, to have a pamphlet

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of more particular instructions printed, and sent to all who co-operate with me in this undertaking.

I have also an Epitome of the "Philosophy of Storms", which shall be put to press as soon as a sufficient number of subscribers shall offer, to bear the expense of publication.

The work will contain about 300 pages, price $10 for 11 Copies.

No other effort than this notice will be made to obtain subscribers. Until particular hours are fixed on hereafter let all choose the hours they please, three times a day at least when no storm is passing - but when a storm is passing much more frequently - particularly noting the time when the wind changes and the moment when the barometer is the lowest. The force of wind may be noted by the figures 1, 2, 3, 4, 5. 1 being a very gentle breeze - 2 a fresh breeze - 3 a strong breeze 4 a very strong wind, and 5 a heavy gale -

To complete the knowledge of some storms which have already been investigated in part, journals are much desired - especially on the night of the 10th of Nov. 1835 on the northern shore of Lake Ontario, and on the 11th 12th 13th 14th & 15th of May 1833. in the same region. on the 16th 17th & 18th of March 1838 in Virginia and N. Car; on the evening and night of the 3d Sep. 1821 in the western part of Massachusetts and Connecticut; on the 15th & 16th Nov. 1839. in the Atlantic Ocean from 100 to 600 Miles east of the U. States.

Information concerning this last storm and that of 1821 is particularly desired, and will be highly valuable, as will appear to any one who will read an account of them in Espy's Philosophy of Storms.

Finally I am resolved to prosecute this subject to the full extent of my means (and my ventilator will probably furnish me the means) - Whether Government aids me or not, provided I obtain a sufficient number of simultaneous observations to enable me to determine the Shape or Size of all storms, and the direction and velocity of their motion over the surface of the earth, and thus enable us to predict their approach, in time to answer the purposes of the Farmer, the Mariner and all Mankind.

Lend me your assistance, and much greater discoveries will be made than we can now anticipate.

Yours very respectfully

James P. Espy

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P.S. If observations of temperature are taken constantly at the same hour throughout the year the mean temperature may be known as is shown by John S. Mc Cord Esq. of Montreal. For example 9 A.M will give a temperature one degree too low - and 10 A.M. 0. 91° too high.

Moreover the mean temperature derived from each pair of hours such as 1 A.M and 1 P.M., 2 A.M and 2 P.M & never differs from the true mean of the year as much as 9/10 of a degree.

You are particularly desired if you have not already done so, to send me a journal of the weather immediately for the first four days of Febr. and also for the 15th, 16th, 17th, 18th, 19th & 20th of Febr. 1842.

It is hoped that many of those who wish to co-operate in this undertaking will, if convenient, furnish themselves with a barometer, as from the fall of that instrument alone, the direction which storms take over the surface of the earth and their velocity may be ascertained. Let not those however who have no barometer be discouraged - their journal of the Winds and rains and snows will be of great importance. Those who have a barometer will of course note the attached thermometer.

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1842
July 2
Rec'd July 21
Ans July 23

S. D. Pry
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Recd Febr. 26th 1843
Ans. March 9th

Washington City Feb. 14th '43

Dear Sir,

I wish to compare the fluctuations of the Barometer with each other in widely different localities, can you send me a journal for the year 1840? If you have no duplicate, perhaps you will lend me your original journal. It may be sent to the

Navy Department
Washington City

with the word Meteorology marked on the envelope. It will then come to me free, and may be sent back the same way. I hope you will also send me your journal monthly - I have not received the Dec & Jan. yet.

Geo. Engelmann M.D.

Yours very truly
J. P. Espy

What do you think of the evidence in my "Philosophy of Storms" in favor of an inward motion of the air in storms?

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TO THE FRIENDS OF SCIENCE.

Last summer I announced to my correspondents, and the public generally, that a "form for keeping Meteorological journals would be prepared and sent to all those in the United States, Bermuda, West Indies, Azores, and the Canadas, who should signify a willingness to co-operate with me in my endeavors to find out all the *phases* of storms which occur within the range of the wide-spread simultaneous observations about to be established.

I have to announce now that the "form" is completed, and arrangements are made to strike off a sufficient number to supply all who shall express a wish to aid in this most important undertaking. It is my intention to lay down, on skeleton maps of the United States, by appropriate symbols, all the most important phases of the great storms which come within the range of our simultaneous observations; and thus it is hoped that we will be able to determine the *shape* and *size* of all storms, whether they are *round* or *oblong;* and if oblong, whether they move *side-foremost*, or *end-foremost*, or *obliquely;* and their *velocity* of motion and the *direction* which they take in all the different seasons of the year; the *course* that the wind blows, in, and beyond, the borders of the storm; the *fluctuation* of the barometer and *change* of temperature which generally accompany storms, and the *extent* to which their influence is felt beyond their borders.

Now, as many of these particulars can be observed as well without meteorological instruments as with them, it is manifest that all who will send me a faithful account of the winds and weather will essentially contribute to the great end in view. Editors of papers, too, who notice great storms, may be of much service by mentioning the time of greatest violence, and the direction of the wind and time of change, and sending a paper containing the account to the *Surgeon General's Office, Washington City*, with the word "Meteorology" marked on the corner of the envelope. All papers and journals thus directed will come to my hands, as I am now attached to that bureau; and, after being carefully collated with each other, will be deposited in the archives of that office, to aid the future meteorologist in developing laws which the present state of the science may not enable us to detect. Let none think their *mite* too insignificant to be thrown into this common treasury.

I am authorized by the Secretary of State to request all our Ministers, Consuls, and other Diplomatic and Commercial Agents of the United States in foreign countries, to whom the "form" is sent, to transmit to the *Department of State* the journals which they may keep or procure from others, that they may be immediately placed in my hands.

All masters of vessels sailing in the Atlantic, or Gulf of Mexico, are requested to send a copy of their "logs" to the *Surgeon General's Office* immediately on their landing at any port in the United States.

If the chain of simultaneous observations could thus be kept unbroken entirely across the Atlantic, the value of the whole system would be much increased.

Journals, according to the adopted plan, will be kept at all the military stations of the United States; and the Secretary of the Navy has given orders for the same to be done at the naval stations, and in ships of war on our coast. Forms also will be sent to all the light-houses and floating-lights, and many of them will at least keep journals of the wind and weather. Governor Reid, of Bermuda, has promised to send me journals from that island, and I have the promise of various journals from Canada, Newfoundland, and Nova Scotia.

There are many of the colleges of the United States from whom I have not yet had such promise; but I now appeal to them *all*, with confidence, to unite in their efforts to perfect this most interesting science.

There are one hundred and three colleges in these United States, and very many high schools; and, as it is known that barometric fluctuations accompany storms, it is manifest that the direction in which storms move, and their velocity, may be ascertained by observations made on the barometer alone, at these various institutions.

The number of observations cannot be too great.

JAMES P. ESPY.

SURGEON GENERAL'S OFFICE, Washington, December 6, 1842.

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1843
Feb. 14th
Rec'd Feb 26 Orthe
Chas Mohr
Chas Mohr
Chas Mohr

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Recd Febr 7th

Washington Jan. 26th 1852.

Dear Sir,

I send you my last labors on Meteorology, just from the Press.

You will find many new facts and new explanations of phenomena all confirmatory of the theory, which I had the honor to develop in St Louis nearly 12 years ago.

I wish you would find time to review these reports, not sparing the defects, for I wish my next Report (which will probably be my last) to be free from any defects which these may contain.

I wish also you would ask the superintendant of the telegraph there to send me to Washington as often as he can accounts of the wind and weather especially the beginning and end of storms.

I remain My Dear Sir very truly yours

James P. Espy

Dr. George Engelmann
St Louis
Missouri

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Errata

Between 7th and 8th line page 39 insert
"32°, and the specific gravity 0.625, that of air"

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